CATS
CAPITOL AREA TIMEX/SINCLAIR USERS GROUP

NEWSLETTER

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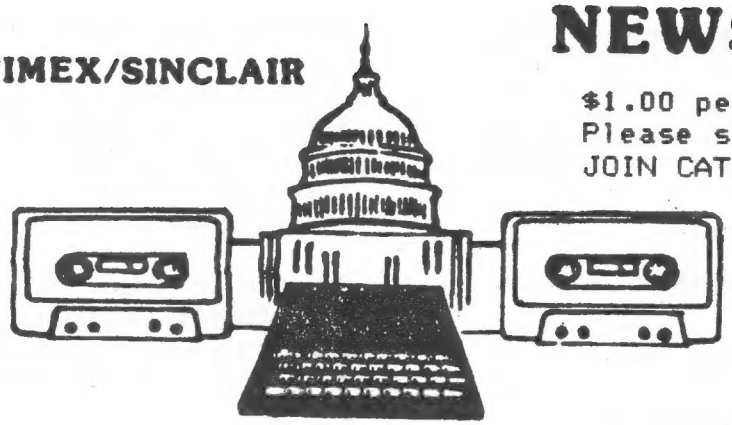

June, 1986
Vol 4, No. 3

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CATS Salutes Science Fairs

For its regular meeting;

Saturday, June 14, 1986

2 p.m. New Carrollton Library

The following area science fair students have been invited to display their accomplishments to the CATS membership in recognition of their exemplary use of personal computing as an integral part of their respective projects---

JOSHUA ENGEL
Eleanor Roosevent high school
Greenbelt, Maryland
"Easier Pi"

DAVID KULP
W.T. Woodson high school
Fairfax, Virginia
"Computerized Acoustical Testing"

GEORGE L. WOOLEY, Jr.
Kenmoor middle school
Landover, Maryland
"A Trapticovic Network"

A business meeting will follow the students.

This salute was one of the outstanding CATS events of last year. Don't miss the 1986 version!

GEORG THOMAS
Eleanor Roosevelt high school
Greenbelt, Maryland
"Voice Analysis & Speech Recognition"

From the Editor

"May you live in interesting times."
Episode 3:Portugal is coming through!

Almost at press time, I have recieved a call from Timex Portugal. In addition to the TC2068 chips, they apparently also have a stock of the chips we use, NCR# F808979, and will be willing to trade the PAL chips that were sent for the correct ones. How nice to find that kind of flexibility and concern! I wish them luck in acquiring production rights to the QL. This time, I'll do it right; testing a sample, and then arranging for an economical shipment and Customs entry, if possible.

Last Meeting....

We enjoyed a four person joint description of the Midwest Computerfest, complete with slides on the 10 ft. screen of the New Carollton Library, blown up from disk camera negatives. Hank Dickson's report on the show follows on page 3. In addition, we had informal demo's of ICE for the QL, and AERCO's RPM (CPM compatible) operating system.

And Next:

In addition to the science fair presentations mentioned in the adjoining column, Tom says he'll bring a demo of WANDERER, a 3D (really!) adventure/arcade/etc. game for the QL. Bring your red/blue 3D specs!

New Officers: The election.

Well, comrades, the nominating committee (chosen at the May meeting) has selected the slate of volunteers for next years officers, and you will please to vote for them at the June meeting (this is a democracy, right?).

Mark Finn

Nominating Committee Report

The nominating committee conferred, per the instructions of the membership at the May meeting, and produced the following slate of candidates , all of whom have agreed to serve in the capacities indicated:

President	TOM BENT
Vice President (Gen'l Purpose)	CHARLES H. DICKSON
Vice President (Hospitality)	HARRY HARRISON
Corresponding Secretary	MIKE COHEN
Treasurer	RUTH FEGLEY
Newsletter Editor	MARK FISHER
Asst. Editor (Honorary)	SARAH FISHER

The election will take place at the Saturday, June 14 meeting.
New officers for the coming year will be installed at the July meeting.

Submitted by:

Ruth Fegley
Sarah Fisher
C.H. Dickson

Contributors

Tony Brooks
Wes Brzozowski, Sincus
Hank Dickson
Economist
Mark Fisher
Robert L. Howard, QZX
Bob Lussier, Computer Astronomy Network
The Program Store
Roald Schrack
George White

Product Notes

Curry Computer, PO Box 5607 Glendale AZ 85312-5607, sent a flyer announcing a line of French QL programs of extremely high quality. First is an actual 3D game - Wanderer - that I've heard is absolutely stunning, and which will be demo'ed at the June meeting - bring your 3D red/blue glasses!

Bob Warner sent a squib reminding us of Integrated Data Systems. 30 Brookmont Rd., Toronto Ont. M4L 3N1 Canada. They are offering T/S 1500's @ $50.00 Canadian. They also have other Sinclair stuff. Write or call Ian Singer (416) 699-6380.

News From our Atlanta Correspondent

Tony Brooks

I am at last settled enough after my move to Atlanta from MD to get around to renewing my membership to CATS. How do you think Sinclair's sell to Amstrad will affect the future of Sinclair Users Groups? I feel this may be the beginning of the end. The QL is now dead and the arrival of the 128K Spectrum will I'm sure mean the phasing out of 48K software and hardware which can be used on the 2068. I've been casting an eye over some of the IBM clones which continue to drop in price - perhaps even cheaper than a QL with 512K memory and a disk drive.

I've recently purchased Multiface One, a device for transferring tape software to microdrive, wafadrive, or disk. It can also be used to break into a program at any point for modification or for making screen copies. I find it much better than Interface III which I had been using before. Interface III required too much tape manipulation and was too prone to errors. Multiface One requiresjust a couple of button pushes for transfer of tape software to mass storage devices.

Best wishes,
Tony Brooks.

Ed. Reply: I beg to differ, re: death of Sinclair and QL. My sources indicate that Amstrad did not buy rights to the QL, and that those rights are still up for grabs. Further, the availability of cheap "IBM"s doesn't change the reasons for owning a Sinclair product - see Brzozowski's article in this issue (he owns an IBM clone as well). Thanks for the short review of Multiface One, and the renewal. Stay cool!

Deadline Dates

Newsletter	Meeting
	June 14
June 21	July 12
July 19	August 9

OFFICIALDOM

President	John Conger
Vice President	Jules Gesang
Vice President	Tom Bent
Secretary-Treas.	Sarah Fisher
Editor	Mark Fisher
Production	Sarah Fisher

Cincinnati MIDWEST COMPUTERFEST a Sinclair Smash!!!

Tiny Sharonville, OH, a suburb clinging to the northern fringe of bustling Cincinnati, was---for the first weekend in May---the site of an incredible national gathering of Sinclair home computing enthusiasts. It was the first to be staged since Boston's legendary ZX/TS Celebration in late October, 1983.

For this two-day MIDWEST COMPUTERFEST, attendance (including family groups, dealers, and the press) approached five hundred. Representatives were there from both the east and west coasts, though the majority of attendees came from the Heartland close to Cincinnati: Illinois, Michigan, Ohio, Indiana, and Kentucky.

The event was well advertised in the midwest and in the national user publications. But the 13-person organizing staff that labored a whole year to produce the COMPUTERFEST was completely overwhelmed by the reponse, especially the number of people who just came in off the street.

What occurred at the Sharonville Ramada Inn is difficult to faithfully describe. Try, however, to imagine a nonstop CATS meeting, 32 hours in duration, complete with well-informed speakers, timely topics, peripatetic participants, and a big 5,000 sq.ft. ballroom filled with highly-qualified dealers in all things Sinclair.

Almost everything was available in the ballroom to satisfy even the most fanatic Sinclair freak. The QL and its peripherals were being displayed by numerous vendors, and it was possible to walk around the room and search out the absolutely lowest price. The Sinclair QL color monitor was a most impressive item, indeed---eight of the most vivid, solid "comic book" colors you will ever see on any screen anywhere.

To the surprise of many of the vendors, however, it was software, hardware, and publications for the T/S 1000 that were the hottest items. In fact, Bill Russell of Russell Electronics, Centre Hall, PA, sold all his T/S 1000 products by noon the first day. (Is there a message, somewhere, in any of this?) And trading and talking were so vigorous on Saturday that the ballroom had to be kept open an additional hour because nobody really wanted to leave.

Panels and individual presentations covered a wide topical spectrum and were held continuously in a separate meeting room during the whole COMPUTERFEST. All were well attended.

Representing CATS were, besides myself, Ruth Fegley, Mr. and Mrs. Lloyd Lewis, and Tom Bent, who was also there as part of the SYNCWARE NEWS conglomerate. A writer from the Wall Street JOURNAL interviewed Ruth Fegley at great length about the fatal fascination she has for Sinclair products generally.

A Sinclair user from Detroit and I got to comparing characteristics of Corvair-owners and Sinclair-owners (he has five Corvairs, I have one). Such folks are, we found, remarkably similar in makeup---tough, stubborn but good-natured, keen on value, and extremely resourceful. They also have difficulty letting a good thing go.

The Ramada Inn was overall a most comfortable place---the staff was actually pleasant! Just a couple of blocks away was a restaurant row that made the fast food strip in College Park seem anemic by comparison.

I have always thought that if you go into an affair like this in a good frame of mind, good things will happen to you. The COMPUTERFEST really provided valid proof for this postulate.

E.g., at DCA, the airline let me get on a plane that had already been buttoned up! Also, after I checked out of the Sharonville Ramada, my housekeeper had me paged by radio and ran down eight floors to hand me the souvenir T-shirts I had left behind!

Two young people were seen promoting Sinclair software they had developed themselves. B.F. Kimbrough of Akron, OH showed a clever little in-memory operating system for the T/S 1000 family that takes the drudgery out of the more common user operations. Jon Roketenetz, a 15-year-old member of the Cincinnati user group, was marketing his DRAW II color graphics program for the 2068. His company is called PEECH II Productions. Their presence and the ingenuity they displayed were indeed encouraging.

All the national Sinclair-oriented publishers were on hand: SYNCWARE NEWS, TIME DESIGNS, SUM, CTM, & TS Horizons. It was a pleasure to meet and talk to these people from diverse parts of the country whose persistence and creativity have to a large degree been responsible for keeping the Sinclair spirit alive.

Looking back, it was hard to detect a negative note during any part of the whole affair. Everyone was as excited as children on Christmas morning. It was as if the continuous unfolding of an endless computing panorama was still just beginning, and everyone was simply grateful just to be there and to be a part of it.

One of the buttons people wore there said:

" SURVIVOR
Timex / Sinclair
Low-Cost Computing"

It was relevant to all the people at the COMPUTERFEST. It is relevant to all the people in CATS. What we do here, in both the short and long term, will indeed determine if there will be any survivors for the future, as well.

---C.H.(Hank) Dickson

Robert L. Howard
750 North Yaleton Ave.
West Covina, CA 91790

CATS
PO Box 725
Bladensburg, MD 20710

Dear Mark:

I am enclosing a program that is neat for selecting or testing a TV or monitor with the 2068.

It was adapted from a Spectrum program so in theory tests 1-6 work also on a Spectrum ROM; however, test 7 for resolution makes use of the routine published in CATS for May '86 by H. Weppler to get the 64 column mode to display a screenful of "m"s as a resolution test. This means that it would probably hang up on a Spectrum unless lines 0-19 and all user calls were deleted.

This program was first submitted to QZX, The Ham Radio Journal but I am sending a copy to CATS to show how I used Ceppler's routine to get 64 columns.

Ed: If this is reprinted, please give credit to QZX as well.

```
  1 CLEAR 63199
  2 FOR I=63200 TO 63245
  3 READ A
  4 POKE I,A
  5 NEXT I
  6 DATA 62,128,24,1,175,245,62,128,211,255,62,1,211,244,241,20
5,142,14,50,194,92,175,211,244,167,33,0,64,17,0,96,1,0,27,48,1,2
35,58,194,92,254,0,200,237,176,201
  7 CLS : FOR N=0 TO 703: PRINT "m";: NEXT n
  8 RANDOMIZE USR 63200
  9 RANDOMIZE USR 63244
 10 CLS
 20 REM FOR SINCLAIR SPECTRUM
 30 REM BY NICK FOOT G8MCQ
 40 PAPER 0: BORDER 0: INK 7: CLS
 50 PRINT "1) RED RASTER"
 60 PRINT "2) GREEN RASTER"
 70 PRINT "3) BLUE RASTER"
 75 PRINT "4) WHITE RASTER"
 80 PRINT "5) CROSS HATCH"
 90 PRINT "6) COLOUR BARS"
 95 PRINT "7) RESOLUTION"
 97 PRINT " & 64 COLUMN RESOLUTION"
100 PRINT
110 PRINT
120 PRINT "INPUT NUMBER OF TEST ROUTINE"
122 PRINT '"Adapted from TV Test program by"'"Nick Foot G8MCQ
in Dec '82"'"Supplement to Practical Wireless"'"TS2068 Version b
y WA6DLI"'"Hi Res from H.Weppler CATS 5/86"''"HIT ANY KEY TO RET
URN TO MENU"
130 IF INKEY$="" THEN  GO TO 130
135 REM ED NOTE; A calculated GO TO here would save seven lines
of code, but the subroutines would have to be evenly spaced.
140 IF INKEY$="1" THEN  GO TO 200
150 IF INKEY$="2" THEN  GO TO 250
155 IF INKEY$="3" THEN  GO TO 300
160 IF INKEY$="4" THEN  GO TO 330
170 IF INKEY$="5" THEN  GO TO 350
185 IF INKEY$="6" THEN  GO TO 500
188 IF INKEY$="7" THEN  GO TO 600
190 GO TO 130
200 REM RED RASTER
210 BORDER 2: PAPER 2: CLS : PAPER 0: GO TO 40
250 REM GREEN RASTER
260 BORDER 4: PAPER 4: CLS : PAPER 0: GO TO 40
300 REM BLUE RASTER
310 BORDER 1: PAPER 1: CLS : PAPER 0: GO TO 40
330 REM WHITE RASTER
340 BORDER 7: PAPER 7: CLS : PAPER 0: GO TO 40
350 REM CROSS HATCH
355 CLS
360 FOR N=8 TO 176 STEP 20
370 PLOT 8,N
380 DRAW 240,0
390 NEXT N
400 FOR N=8 TO 255 STEP 20
410 PLOT N,8
420 DRAW 0,160
430 NEXT N
440 CIRCLE 256/2,176/2,75
450 PAUSE 0: GO TO 40
505 CLS
520 FOR I=0 TO 21
530 FOR N=1 TO 7
540 PRINT  INK N;"????";
550 NEXT N
555 PRINT
560 NEXT I
570 PAUSE 0: GO TO 40
600 REM RESOLUTION TEST
605 CLS
610 FOR N=0 TO 703
620 PRINT "m";
630 NEXT n
635 PAUSE 200: INK 0: PAPER 7: BORDER 7: CLS
636 FOR n=0 TO 703
637 PRINT "m";
638 NEXT n
640 PAUSE 200: GO TO 700
700 OUT 255,6: PAUSE 0: OUT 255,128
702 RANDOMIZE USR 63204: GO TO 705
705 PAUSE 200: CLS : RUN
1000 REM This program by Bob Howard, WA6DLI is useful if you wis
h to evaluate a monitor or TV for use with your 2068
1010 REM Because it has a routine to print "m" on the screen in
both 32 and 64 column modes you can see how good (or bad) your T
V or monitor will be.
```

CRYPTOGRAM Solution:

MANY COMPUTER TUTORS PREFER LITTLE KIDS OR OLDER FOLKS A TEN YEAR OLD OFTEN TEACHES THE TEACHER.

Autodial for the 1000!

By Mark Fisher

The following program is an adaption of a 2068 program by Randy and Lucy Gordon of the Cincinnati TSUG. The machine code routines in line 10 allow for the absence of IN and OUT commands in T/S 1000 BASIC.

The odd phrasing of lines such as 110 RAND 31+USR OUT119 allows us to pass the value 31 to the machine code; for the 2068, it would simply be 110 OUT 119,31.

The program will work for the 2068 by making the above change to all similar lines, deleting the MC loader (lines 4000 on), and changing the PAUSEs to reflect the different timing of the 2068. You'll have to experiment, comparing the timing with a standard dial phone.

MF

```
   10 REM LN LN +PEEK ?LN 1+TAN <
 =?▪ ?TAN LN LN +PEEK ?LN 1+TAN <
 =?▪ ?TAN .........3.........4
   20 LET OUT119=16514
   30 LET IN119=16523
   40 LET OUT115=16529
   50 LET IN115=16538
   60 FAST
   90 REM AUTODIAL
  100 INPUT A$
  110 RAND 31+USR OUT119
  120 FOR I=1 TO LEN A$
  130 LET A=VAL A$(I)
  140 IF A=0 THEN LET A=10
  150 PAUSE 25
  160 GOSUB 200
  170 NEXT I
  180 GOTO 300
  200 FOR D=1 TO A
  210 FOR E=3 TO 4
  220 RAND E+USR OUT119
  230 PAUSE 1.3
  240 NEXT E
  250 RAND 1+USR OUT119
  260 RAND 2+USR OUT119
  270 NEXT D
  280 RETURN
  300 PRINT "PICK UP PHONE"
  310 PAUSE 200
  320 RAND 0+USR OUT119
  500 REM AUTOANSWER
  510 RAND 34+USR OUT119
  520 RAND 0+USR OUT119
  530 LET A=USR IN119
  540 IF A=5 THEN GOTO 530
  550 PAUSE 400
  560 LET A=USR IN119
  570 IF A=5 THEN GOTO 530
  580 PAUSE 400
  590 LET A=USR IN119
  600 IF A=5 THEN GOTO 530
  610 RAND 2+USR OUT119
  620 RAND 34+USR OUT119
  630 SLOW
  640 SCROLL
  645 SCROLL
  650 PRINT AT 19,0;"
PHONE CALL
                    ";
  660 IF INKEY$="" THEN GOTO 640
 1000 STOP
 4000 LET X=16514
 4010 LET A$="20520502121111192050
 2902120121911900600079201"
 4020 LET A$=A$+"20520502121111152
 0502902120121911500600079201"
 4030 FOR I=1 TO LEN A$-2 STEP 3
 4040 POKE X,VAL A$(I TO I+2)
 4050 PRINT X,PEEK X
 4060 LET X=X+1
 4070 NEXT I
```

****

The Program Store BBS List

LOCAL LISTING

for Maryland, DC, and Virginia

UPDATED : 12/29/85

****

SYMBOLS

BAUD RATES)) A = 300 baud B = 300/1200 baud
C = 300/1200/2400 baud

STATUS)) + = Verified as of 12/29/85 * No Answer so far
- Temporary down

****

AC	Number	B	S	Remarks
202	332-9585	A		RBBS-PC
202	376-7732	B	+	Unicorn FIDO
202	537-7475	A	+	Fannie Mae
202	540-0089	B	+	Great Dane
202	540-7230	B	+	Programmer's Toolbox, The
202	540-8379	B	+	Funhouse
202	547-2008	C	+	Computer Connections
202	634-3147	B		TCOMM ACRS Nuclear Issues
202	648-9322	A	+	Magus Software Sorcery
202	686-5230		*	Dynaboard 64
202	686-7429	A	+	Dragon #1
202	745-2973		*	FSL Commodore
202	863-1483	A	+	The DC Program Store
301	251-0599	B	+	Mania I
301	258-5822	B		TCOMM PC AT & IBM PC Network
301	258-8392	B	+	Nameless
301	267-4930	B		RBBS-PC Capital PC XT-SIG
301	292-0559	B	+	HOSTCOMM
301	292-0817	A	+	Traveller's Inn (10Pm - 7Am)
301	292-7955	B	+	Capitol Osborne RCP/M
301	299-3228	B	*	Pacesetter I
301	299-6202		*	Risky Business
301	330-2784	B		RBBS-PC PCjr with PCjr files
301	340-1376	B		RBBS-PC Commercial BBS
301	340-2486	A	+	Quantun
301	344-9156	A	+	NASA GAS (GET AWAY SPECIAL space shuttle)
301	345-8079		*	Unionnet #1
301	350-1299	B	+	Mad Faces
301	365-0991	B	+	B.A.S.I.C.
301	424-5817	B		HOSTCOMM Capital PC Monitor
301	428-3145	B	+	Battleship
301	428-7931	C	+	TCOMM HQ - Larry Jordan
301	444-9708	A	+	The Outpost

301 460-0498 A + Centaur Isle
301 465-3176 B RBBS-PC Commercial BBS
301 468-1439 B RBBS-PC CPL/1 project
301 469-9440 B RBBS-PC
301 486-1074 C + EPSON
301 495-2932 B + Generation 5
301 498-7283 C +
301 530-6479 A + W.J. BBS, The
301 530-9106 B RBBS-PC 6pm-7am sports predict
301 540-7230 B 6pm - 8am M-F
301 540-7540 B RBBS-PC Telios & comm info
301 552-2573 B + F.O.R.E.M. ACA
301 568-4565 B + Atari Flagship
301 577-2298 A + Hacker's Guild
301 585-8249 B + Morgue
301 587-2132 B + Computer Age
301 593-7033 B + H.E.X. (Handicapped Educational Exchange)
301 596-3569 B RBBS-PC Capital PC Stat SIG
301 656-3401 C + Tower of Darkness
301 661-2175 B RBBS-PC Zenith 100
301 663-5740 B 6pm - 9am M - F
301 762-8486 B RBBS-PC Ringback eve & weekend
301 776-2300 C +
301 776-5666 B + Real Life (TBBS)
301 791-2035 A TCOMM Columbia PC
301 794-5970 C + IBM/PC
301 796-1223 B TCOMM 31 Mbytes of files
301 843-0858 A + Camelot
~~301 869-0801 B FIDO~~
~~301 871-7978 B + Washington Apple Pi~~
~~301 921-0111 B FIDO The Pacesetter II~~
301 926-8187 B + 3 Winks
301 933-0313 A + Time Warp
301 933-0734 A + Wheaton Plaza Info BBS
301 933-2489 B + Holy Grail
301 946-2565 B + Phoenix
301 946-6790 B RBBS-PC
301 948-0981 B + Best L'il BBS
301 948-2048 B RBBS-PC National Bureau of Std
301 948-5718 B RBBS-PC National Bureau of Std
301 948-6574 B RBBS-PC PC-DOS, CP/M and Apple
301 949-8848 C + CPC Software Exchange
301 951-3478 B + Buckingham Data Services
301 956-3396 B RBBS-PC
301 963-5249 B * SUGI SIG/M
301 963-5249 C +
301 972-6470 B + Gilligan's Island
301 983-3213 * Jaguar Computing
301 986-9408 C + Plain Vanilla Computing Company
301 995-0032 C + TBBS
703 237-4322 B + Int Assc Crypto Resrch
703 250-2936 C +
703 255-0779 * Computhink Services
703 256-3223 B + Gallifrey
703 256-9676 B + SCPS Ed. BBS
703 276-9407 * Info Connection, The
703 321-7441 B + Acumen
703 321-8070 B + Micro Connection
703 323-0041 * COLOSSUS CENTRAL
703 323-7654 B + Systems Exchange 7:30 Am-3:00 Pm WKDAYS ONLY
703 354-7957 B - Capital PC DataSig
703 360-3812 B + CHUG HEATH Users Group
703 379-3952 B + NoChange
703 385-6852 C + Cyclan Central Intelligence Bank (TBBS)
703 425-1234 A + White Sands
703 425-7229 * Assembly SIG
703 430-0091 C + Tech-Connect
703 430-0306 A + Sterling R/CPM
703 430-2535 B + TechMail
703 437-1321 B + Pig Sty Exchange
703 437-7871 B + Astrix
703 471-0610 B + Software Sorcery ABBS
703 471-0611 A + Magus
703 471-1378 B + Macintosh BBS
703 471-1809 B + Attic
703 476-9459 B + Master Link, The
703 534-4636 B + Ole Time BBS, The
703 548-0533 * Olde Town Exchange
703 560-0979 C + Capital PC Users Group
703 560-7803 A + Washington Networks
703 569-6747 B + The Machine
703 573-5947 A + TRON
703 590-9613 A RBBS-PC
703 620-0851 B + Electronic Age
703 620-5418 C + VALDOCS
703 620-9244 B + NoChange System
703 644-5734 A + Ravenloft
703 671-3494 A + IBM RBBS
703 680-5220 A
703 698-8236 * Arquimedes
703 759-5049 C + IBMPC RBBS
703 759-6344 B TCOMM DC Society of Pro Engr
703 765-1415 A RBBS-PC 7am-midnight
703 765-2161 B + The Switchboard
703 765-2491 B + Firefall
703 780-8766 * Alcatraz Prison BBS
703 790-1740 B + Mitre Weather
703 836-0384 B TCUG TRS-80 System
703 893-0874 B + Tysons Corner Advertisement System
703 898-6929 B RBBS-PC 6-11pm only
703 941-2386 C + TCOMM Teleware Finance Pkg
703 941-9436 B * Janadon HOSTCOMM
703 971-1755 A * Convertible BBS, The 9a - 11p
703 971-5381 B * GMU Connection RBBS
703 978-3890 A + Officer's Club
703 998-7625 B RBBS-PC NOVACOM
703 998-7789 A + Caves of Tritech, The

PS: Many of the above numbers will no longer be in service. a: the list is six months old, and b: almost all of these are amature offerings - the burnout rate is high. Politeness demands that you dial in using voice the first time. (That way you get to hear the message on why the number is out of service.)

HALLEY'S COMET

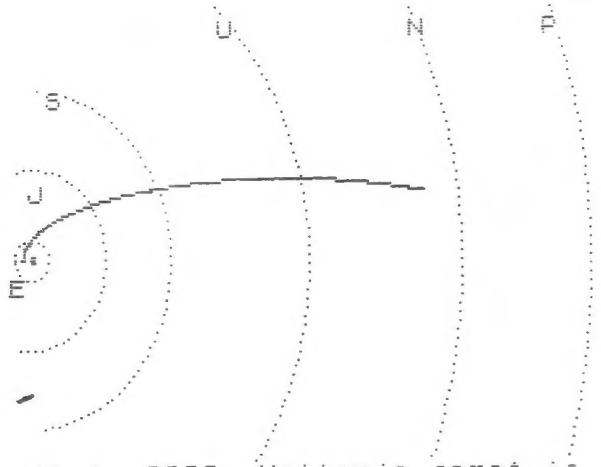
The recent visit of Halley's comet was pretty much of a bust. It was in fact the worst viewing for the past 2000 years. If you couldn't find it in the sky, here's your chance to see it on your 2068! The following code starts at the date of the comet's closest approach to the sun (perihelion) on Feb. 9, 1986 and tracks it through the solar system, showing the year and distance to the sun until it again returns in 2062.

The solar system is shown with the orbits of the earth,Saturn,Jupiter, Uranus,Neptune, and Pluto. The average orbit radius is shown for Pluto- the actual orbit is an ellipse, and Pluto is now closer to the sun than is Neptune. I have not shown the orbits of Mercury, Venus, or Mars because their orbits would make the picture too crowded. One pixel length represents about 13 million miles.

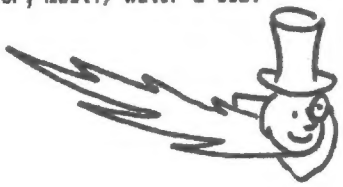
This program is meant to be illustrative rather than a precision calculation. The July 1985 issue of Byte has an excellent collection of articles and references describing programs that can be used for more precise calculations.

Roald A. Schrack

```
 10 REM ** HALLEY'S COMET **
 50 CLS
 60 CIRCLE 10,85,1
100 FOR j=1 TO 6
110 READ n$,p,r
120 LET pz=p
130 LET p=-p
140 LET x=r*COS p+10
150 LET y=r*SIN p+85
160 PLOT x,y
170 IF p>pz THEN GO TO 200
180 LET p=p+3/r
190 GO TO 140
200 PRINT AT 22-y/8,x/8;n$
210 NEXT j
220 DATA "E",3.14,7,"J",1.73,31
,"S",1.48,58,"U",.82,116,"N",.49
,180,"P",.37,234
230 LET tz=0
240 LET p=0.
245 PRINT AT 20,1;"It is ";1986
;". Halley's comet is"
250 LET p=p+.008
260 LET t=12.12*(p-.9673*SIN p)
270 IF t>tz+1 THEN GO TO 290
290 LET x=107.4*(.9673-COS p)+1
0.
300 LET y=27.2*SIN p+85
302 IF p>6.28318 THEN STOP
304 LET d=15.6E6*SQR ((x-10)*(x
-10)+(y-85)*(y-85))
306 PRINT AT 21,1;d;"      "
308 PRINT AT 21,14;"miles from
the sun"
310 PLOT x,y
312 IF t>tz+1 THEN GO TO 320
315 GO TO 250
320 PRINT AT 20,7;tz+1987
330 LET tz=tz+1
340 GO TO 250
```



The British science journal Nature notes that Halleys is actually a dark, peanut-shaped object, slowly rotating and giving out jets of vapor, mostly water & CO2.



Planets thro' Telescope

This program gives an impression of the relative size of all the planets as seen through a telescope for any magnification up to 300x. Included in the printout to the screen is the maximum and minimum size of each planet in seconds of arc and a scaled disc according to the magnification. -Bob Lussier, Burnaby, B.C., Canada

```
  8 REM ************************
        for the Timex 2068 and
        the ZX Spectrum
        ************************
  9
 10 REM ************************
        Planets thro'Telescope
        ************************
 11 REM contributed by
        R. Lussier
 12 REM Vancouver Sinclair
        Users Group
 15
 20 LET d=120: LET e=180: BORDE
R 0: PAPER 0: INK 9: CLS
 30 PRINT PAPER 5;"planet when
remote/nearest"
 40 PRINT  PAPER 1;''"Mercury"'
''"Venus"''''"Mars"''''"Jupiter"''
''"Saturn"''''"Uranus"''''"Neptune"
 50 INPUT "magnification X";c
 60 IF c>300 THEN  GO TO 50
 70 PRINT  PAPER 3;AT 0,26;"X";
```


Continued on p. 9

Milestones

By Wes Brzozowski, SINCUS
May/June SINCUS News, 1986
PO Box 36, Johnson City, NY 13790

Sometimes it's worth taking a little look at where we've been so we can appreciate where we are. We may feel that the present support for the T/S computers is nothing less than abysmal. While this may be true by modern standards, just a short look back can show us how quickly we forget and perhaps, how spoiled we've become.

Having been involved with personal computers for about 12 years, I've been privileged to see the field evolve first hand. I've been able to work with many of the old gadgets that have come along, over the years. In other cases, I've at least been able to see the items, or talk to those who've used them. The vast changes we've had are absolutely breathtaking.

This will not be a comprehensive history of home computing. There's not enough space (or reader interest) for it. We'll just cover a few highlights to give a feel for computing in the past. Note that I've tried to make this as accurate as possible, verifying my facts and figures wherever I could. Still, some parts are done entirely from memory and a "verbal bug" or two may creep in. If so, please forgive me.

What computers were available 12 years ago? They might have been more aptly been called "computer trainers." You might answer an ad in an electronics magazine, send hundreds of dollars, and get a bag of parts. These would be assembled into a little gadget that you "programmed" by flipping some switches. The output would be some little lights. Some of these items actually contained an obsolete 4004 or 8008 microprocessor.

Your program was machine code which you entered in binary form. There was no cassette interface, as there wasn't enough memory to make it necessary. Some early enthusiasts bought and learned from these while others felt them too limiting and avoided them.

The next alternative was to design and build your own computer. Since commercial support was unheard of, you didn't have to be compatible with anything. Some didn't even use microprocessors. The then "top-of-the-line" chip, Intel's 8080A then cost about $180 apiece. Alternatives were difficult to use and still costly. So home designed computers included a custom CPU built from TTL chips. Instruction sets were crude and limited, but they were fantastic toys. (My own first machine had an average instruction length of 18 BITS, which were read one at a time, out of about 4000 BITS of core memory. I was real proud of it; it almost worked properly.)

A third alternative was possible. If you wanted to spend a thousand bucks or so, you could buy a commercial trainer for a particular microprocessor. These were intended for electronics firms that wanted to develop their own microprocessor based products, and were priced to match what such firms could pay. Home users who could afford (or even obtain) these were rare, and much envied.

On or about 1975, however, several signifigant things happened. First, one of Intel's competitors started seling 8080 microprocessors for only $30 each. Now, they were cheap enough for the masses. Also, a company named MITS packaged the 8080 in a large box with a huge power supply, 4K of RAM, and lots of slots for expansion cards. This box was the ALTAIR 8800. for about $500, you could get a bare bones ALTAIR in kit form. For another couple hundred, you could get it assembled and tested (and it was worth it, I'm told).

The existence of expansion cards brought some interesting results. Some companies didn't want to make entire computers, but were glad to build cards that would plug into the ALTAIR. Others that did market their own computers used the ALTAIR's internal bus, so that they'd be compatible with all the available plug-in cards. The first home computer standard was born. It turned out to be both an unwanted baby and one of the ugliest offspring ever seen! The S-100 bus.

You see, MITS never tried to produce a standard; they just wanted an easy way to connect several of their circuit boards together. The 8080 microprocessor produces some very wierd signals that were intended to be "sorted out" by a seperate system controller chip. This chip would "hide" the wierd signals, and present us with saner, easier-to-use ones. Unfortunately, this chip wasn't available when the ALTAIR was designed, and all the "flakey stuff" was put right on the bus. When the system controller chip did become available, it really couldn't be included.

Also, this "convienient" way of wiring several boards together made a signal layout that was very inconvenient for later designers. All this gave rise to the speculation that, if you locked 20 monkeys in a room with an 8080 pinout, they'd only take 10 minutes to design the S-100 bus. The home computer field was burdened with this "thing" for years; traces still remain.

The bare-bones ALTAIR was programmed in binary by flipping switches on the front panel. The only output was LED's. In this way, it resembled its predecessors, a bit. The difference was, it was a bit prettier, a lot more expandable, and a whole lot more expensive.

What could you plug into an S-100 type computer? Memory, for one thing. A mere $200 would get you a 4K memory card. Disk drives? No problem. It was about $400 for the interface and $500 for each drive. Rather use cassette? The cassette interface cost only $175, and was SLOW. Other add-ons included keyboards (the ALTAIR ordinarily had none), an interface for TV or monitor, or analog or digital I/O. In 1977, a full 64K RAM board could be had for $3900. The expandability of the thing was only limited by the depth of your pocketbook!

These machines normally had no internal ROM. In order to get the cassette interface to work, you had to "toggle in" a 20 byte machine code bootstrap program every time you powered the machine up. You might then load in BASIC, for example, provided you paid a hundred (!!) bucks or so to buy it.

Perhaps it was the BASIC's for these machines that gave the first warning that software piracy would someday be a great problem. Most "old timers" will never forget the letter in one computer magazine by a seller of BASIC. The gentleman thanked the many people who wrote and complimented him on how well the BASIC interpreter worked. He then pointed out that he'd checked

his customer list (the product was sold by direct mail only) and found that only a small fraction of those who wrote had actually BOUGHT the product. He then warned the rest that they'd better pay up.

Unfortunately, the piracy problem hasn't gotten any better.

Home users were fairly trusting in those days. Many people had no qualms about sending hundreds of dollars to a total stranger to buy a product sight unseen. This innocence vanished after a series of ads appeared in a major magazine, advertising a bunch of non-existent products that the advertiser had no intension of delivering (he never paid for the ads, either). Despite some very wild claims that were even inconsistent with the photographs of his "product," the guy managed to take in a fair bit of cash before he vanished. I don't know if he was ever caught.

Those who got the proper word-of-mouth information could have purchased their very own Apple I computer, hand build by Steve Wozniak, himself. Although this was really intended to be the guts of a terminal, it could be used as a stand alone computer. For $700, you got the assembled, tested circuit board, and that was it. You attached your own transformer, keyboard, and monitor. The board had room for a full 8K of RAM, which you programmed with machine code. The board also had a single expansion slot, into which you could plug a cassette interface, if you chose to buy one. Sounds great, Eh?

In 1976, a big step was taken towards affordable home computing with the KIM-1. For $250 you got an assembled, tested (and very static sensitive), circuit board. It required multiple supply voltages, which you had to supply yourself. The board had 1K of RAM, and a small ROM program that controlled a hex keypad and some seven-segment LED displays (your input and output). If you could swing $700-$800 bucks for a surplus teletype, it could run that, too. You programmed it in machine code only, but the price was going down!

In 1977, we saw the introduction of the Apple II. It came with an 8K ROM with an INTERGER (!) BASIC, a cassette interface about as fast as the T/S 2068, and graphics and text capabilities only slightly better than the 2068 in 32 column mode. It had almost no software available for it. With 48K of RAM you could get one for $2,638.

To be sure, The Apple II was designed to be expandable and its original design has been greatly improved. It truly deserves all the success it's enjoyed. But don't forget that people back then paid a huge sum for a machine with little support and capabilities about comparable to the 2068. Also, don't forget that prices mentioned so far should be doubled to get a comparable 1986 amount.

Back in 1979, I read about this British kook named Sinclair who claimed he could make a computer that hooked to an ordinary TV set, had an alphanumeric keyboard, and BASIC built in, so you didn't have to pay extra for it, for about $200! This seemed like a show stopper, but still highly unlikely, considering the price/performance ratio of the KIM-1. (How was I to know that Clive was so smart?)

Well, of course Clive Sinclair made good on his promise, and his later machines have enriched our lives even as we've enriched his pockets. We've seen the rise in popularity of his machines, and now we're seeing the decline. As the personal computer field has changed in the past, it will continue in the future. It won't be long before our TS2068's look just as outrageous as the old MITS ALTAIR looks to us today. And as the support for our machines continues to decline, we'll feel a sense of loss. Yet the old users had so much less. Our machines are far cheaper, far easier to use, far more powerful, have far more enthusiasts, and have far more commercial support than they could ever have hoped for. They made out OK.

So will we.

There's nothing wrong with change, or looking to the future. For quite some time, I've owned an IBM PC, with which I do most of my serious work. Still, by happiest time is spent tinkering with my TS2068. Perhaps it's because we still have a core of interested users who know how to have fun with the machine. And perhaps it's because I still view the TS2068 with a sense of awe, when I realize how much power there is in a small, inexpensive package, and how far we've come to achieve it.

WB

[Ditto for the 1000! Ed.]

Continued from p. 7

```
  80 REM data=planet diam "arc
  90 DATA 4.7,13,11,63,3.5,26,30
,48,14,20,3,4,2.3,2.3
 100 FOR n=1 TO 7
 110 READ a,b: INK 5+(1 AND n>3
AND n<6)-(3 AND n=3)
 120 PRINT  AT n*3,8;a; CHR$ 34;
TAB 28;b;CHR$ 34
 129 REM ********************
 130 CIRCLE d, INT (170-n*24), I
NT (a*c/500)
 140 CIRCLE e, INT (170-n*24), I
NT (b*c/500)
 150 NEXT n
 151 REM ********************
 155 REM Jup belts/Saturn rings
 160 LET r=c/18: LET x=c/9
 170 LET r1=c/11: LET x1=c/5.5
 180 PLOT d,73-c/d
 190 DRAW r,0: DRAW -x,0: DRAW 0
,c/50: DRAW x,0
 200 PLOT d,50
 210 DRAW r,0: DRAW -x,0
 220 PLOT e,50
 230 DRAW r1,0: DRAW -x1,0
 240 PLOT e,73-c/d
 250 DRAW r1,0: DRAW -x1,0: DRAW
 0,c/50: DRAW x1,0
 259 REM ********************
 260 PRINT #0; FLASH 1;"press c
to continue": PAUSE 0: RUN
```

CRYPTOGRAM:

STDM HYSZLANG ALAYGF ZGNING

ORAAON PRUF YG YOUNG IYOPF.

T AND MNTG YOU YIAND ANTHXNF

AXN ANTHXNG.

G. White

Neat catch

What goes up must come down, and British entrepreneur Sir Clive Sinclair this week did—into the arms of rival Mr Alan Sugar, founder and boss of Amstrad Consumer Electronics. Mr Sugar paid £5m ($7.3m) for the rights to produce and sell Sir Clive's computer inventions, and he will pay perhaps twice as much again for inventories of Sinclair computers. Just a couple of years ago, the company built around these machines was valued at well over £100m. The slump in its value shows how much work Mr Sugar will have to do to make his investment pay.

Mr Sugar may succeed. He has the production and marketing skills that Sir Clive lacks. He expects sales of his own computers to rise from 650,000 machines last year to more than 1m this year. The Sinclair deal will, he hopes, add another 300,000 or so sales, worth £40m or so. That will give Mr Sugar over half of the British home-computer market, and perhaps also the economies of scale he needs to make good some global ambitions.

Although no technical wonder, Amstrad's £399 word processor was designed specifically to meet demand for a useful computer that ordinary folk could afford. It is built cheaply and efficiently in South Korea, and sold through a well organised chain of British high-street retailers. Amstrad's pre-tax profit tripled, to £27.5m, between the last six months of 1984 and July-December 1985.

Sir Clive tried to sell a cheap-but-useful computer years before Mr Sugar. But—despite an initially enthusiastic reception to his QL model, which offered a spreadsheet as well as word-processing—his problems with production and quality control combined with his disorganised distribution system to kill sales. Mr Sugar will probably now scrap the QL. Instead, he will focus his efforts on one of the oldest of Sinclair's computers, the Spectrum, on which millions of 11-year-olds have learned to play computer games. Although its technology is greying, Mr Sugar hopes that the availability of huge amounts of software for the Spectrum will help him give the machine new life.

Although Mr Sugar has not yet had time to make firm plans, he talks of remodelling the machine. Inventory control, never one of Sir Clive's strengths, will be tightened. Mr Sugar will offer the three British suppliers—Timex, AB Electronics and Thorn-EMI—a chance to renew their contracts, if they can meet South Korean prices and quality. But they will have a chip on their shoulders: not only are British wages higher than South Korean, but the EEC duty on the imported microchips for the computers, at 18%, is far higher than the 5% duty on imported computers.

Sir Clive plans to divide his time in future between four separate parts of his reorganised business. He will continue development of a portable computer, called the Pandora. (Mr Sugar also has right of first refusal for the production and marketing of this machine.) He is developing a new mobile-communications product with an as yet unannounced partner (Timex?). He is branching out into contract research to help boost cash flow. And he is pouring money into efforts to develop a semiconductor technology called wafer-scale integration.

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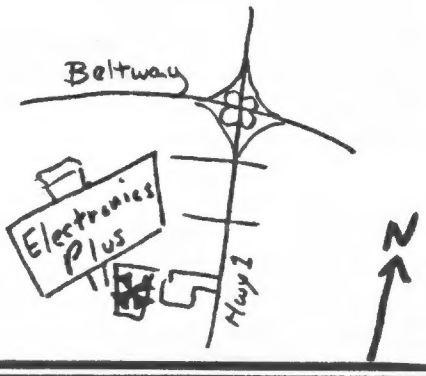

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TS 1000 _____ type _____

TS 2000 _____ other interface _____

Special interest use for computer: ie, Games, ham radio interface, business, other, etc. _____

_____

Languages: Basic _____ Other _____

Machine _____

No. of years computer experience _____

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_____

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_____

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